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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,086	08/22/2001	Gary Gilliam	303.221US3	9279

21186 7590 12/02/2003

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EXAMINER

KARLSEN, ERNEST F

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/935,086

Applicant(s)

GILLIAM, GARY

Examiner

Ernest F. Karlson

Art Unit

2829

aw

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 23-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Claims 23-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no original disclosure relating to forming an integrated circuit. There is no original disclosure for an array of memory cells. There is no original disclosure for the "normally on" and "normally off" limitations added by claims 26, 27, 29, 30, 32, 33, 36, 37, 40, 41, 43, 44, 46 and 47.

Claims 23-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is still not clear how what Applicant says is a voltage regulator is a voltage regulator. A thermostat and furnace in a house make up a temperature regulator. The thermostat senses the temperature and controls the furnace to reach a set temperature. There doesn't seem to be the equivalent of a thermostat sensing temperature in Applicant's apparatus. No sensing of <sup>what</sup> ~~that~~ the voltage is at V<sub>bb</sub> seems to be present. How can regulation take place without sensing the level of that to be regulated? There is no disclosure of what is contained in the charge pump or how it and any other circuitry would form a voltage regulator. The disclosure simply says it is a voltage regulator. Looking at Figure 1, presumably V<sub>cc</sub> is a source with one side tied to a

reference level, perhaps ground. Presumably the substrate would have one part connected to Vbb and another part connected, maybe although additional impedance, to ground. It isn't clear which terminal of the charge pump is a sensing terminal and which is an output terminal but presumably the terminal on the right is the output terminal. If the terminal on the left is the sense terminal it would appear that it would always sense the drop across M1 and would hold the substrate at a level related thereto regardless of the status of switches M4 and M6.

The above rejections were applied in previous rejections and Applicant has argued that one skilled in the art would know what the parts are and how they are assembled. Even if one skilled in the art knows what the added parts are once added to the specification such is not grounds for adding new matter. The argument that one skilled in the art would know how to assemble seems equivalent to saying that given the structure, assembly would be obvious. Therefore any structure which could be assembled using the method of forming would anticipate the method of forming. Regardless of the above, Applicant has not disclosed an array of memory cells or provided a method of forming an integrated circuit. It is not clear how the voltage regulator is coupled to the substrate.

Claims 23-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is still not clear what the claimed steps are or how they would be performed. There is nothing in the specification related to steps of

forming. It is still not clear how the voltage regulator is coupled to the substrate. In claim 45 lines 7 and 8 it is not clear how a transistor can bypass a plurality of diodes.

Claims 26, 27, 29, 30, 32, 33, 36, 37, 40, 41, 43, 44, 46 and 47 are not proper because they do not further limit a method of forming.

The above rejection was applied previously and Applicant has argued that with a teaching of a physical or schematic structure of an invention it is inherent that the structure must be formed. Because Applicant has not described any steps of forming in the specification it is not clear in the claims what the steps of forming would be or how they would be performed. Applicant has not described how the voltage regulator is coupled to the substrate and therefore regardless of the breadth of "coupling" it is not clear what is being claimed. The rejection of claims 26, 27, 29, 30, 32, 33, 36, 37, 40, 41, 43, 44, 46 and 47 for not further limiting a method of forming is considered proper because "normally on" or "normally off" does not relate to what is formed or the structure of that which is formed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLaury in view of Bynum et al and Uchida. McLaury shows apparatus for regulating substrate bias but does not show a plurality of diodes in series selectively shunted by

transistors to establish the bias. Bynum et al shows the concept of controlling the bias applied to a substrate by shunting or not shunting a single diode in a line that applies voltage to a substrate. Uchida shows in Figure 16 the selective shunting of specific ones of diodes in a circuit having plural diodes in series to produce a desired bias level. Figure 16 shows fuses 126 shunting the diodes but column 9, lines 16-23 indicate that the parallel circuits in a first embodiment which contain the fuses could be modified so that the parallel circuits are set in a high impedance state at the initial stage, and selectively set in a low impedance state at the programming stage. It is left to one of ordinary skill in the art, how switching would be accomplished in the apparatus of Uchida, and the Examiner maintains that transistors would be a reasonable choice especially since Bynum et al teaches that a transistor may be used to establish a bias level by shunting or not shunting a diode. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the apparatus of McLaury to include a series string of diodes of Uchida selectively shunted by transistors as suggested by Bynum et al, or obvious to one of skill in the art, because one skilled in the art would realize that so doing would result in an easily fabricated apparatus. Applicant's claims read on the obvious method of fabricating the resulting above apparatus. Note that the apparatus of McLaury relates to a memory device. The wherein clause is not considered limiting in any of the independent claims. Reference to "testing operations" in the claims that have it is not considered to impart limitation. The "normally on" and "normally off" limitations added by claims 26, 27, 29, 30, 32, 33, 36, 37, 40, 41, 43, 44, 46 and 47 are not given patentable weight since they do not relate to a method of

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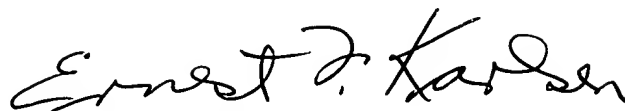
forming.

Any inquiry concerning this communication should be directed to Ernest F.

Karlsen at telephone number 703-305-4768.

Ernest F. Karlsen

November 25, 2003

A handwritten signature in black ink, reading "Ernest F. Karlsen". The signature is written in a cursive style with a large, stylized "K".

**ERNEST KARLSEN  
PRIMARY EXAMINER**